

**BIOLOGICAL SURVEY REPORT
FOR
THE COUNTY OF SAN DIEGO
ON
FALLBROOK OAKS TM 5449; ER 05-02-029
COUNTY OF SAN DIEGO, CALIFORNIA**



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CERTIFICATION: I hereby certify that the statements furnished above and in the attached exhibits present data and information required for this biological evaluation, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief.

Date: March 20, 2008 Signed: _____
County Approved Consultant: VHBC, Inc. Victor Horchar

Principal Investigador: Gonzales Environmental Consulting, LLC
Teresa Gonzales

CERTIFICATION: I hereby certify that the statements furnished above and in the attached exhibits present data and information required for this biological evaluation, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief.

Date: March 20, 2008 Signed: *Teresa Gonzales*

Date: May 23, 2006

Revision Date: March 20, 2008

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A. SUMMARY OF FINDINGS

This report revises the Draft Biological Technical Resources Report submitted in August 2005 completed by Dudek and Associates, Inc. This report incorporates the comments provided by the County on November 8, 2005, and incorporates the results of vegetation mapping, and includes offsite impacts adjacent to Reche Road.

The 27.15 acres Fallbrook Oaks project site, located in northern San Diego County was surveyed to determine existing and potential biological resources by Dudek and Associates, Inc. Impacts to sensitive biological resources resulting from construction of a proposed 18-unit residential development, associated infrastructure and brush management zones are determined. Offsite impacts include the improvements to Reche Vista Road and associated drainage improvements. Avoidance, minimization, and mitigation measures are recommended to reduce all project impacts to less than significant.

No state- or federally-listed threatened or endangered species were detected on site. There is a low to moderate potential for least Bell's vireo and southwestern willow flycatcher to occur in riparian forest habitat onsite. Focused surveys to determine vireo and flycatcher presence or absence were completed in spring/summer 2006. No least Bell's vireo or southwestern willow flycatcher were present on or adjacent to the project site.

The proposed project will impact a total area of 21.55 acres, comprising 16.27 acres of grading. Direct project impacts to sensitive vegetation total 17.16 acres of non-native grassland, 1.27 acre of disturbed coast live oak woodland, and 0.005 acre of southern coast live oak riparian forest. Indirect project impacts to non-native grassland due to fire management will occur.

The project would impact 0.005 acre of RPO wetlands, 0.006 acre of federal jurisdictional waters, and 0.05 acre of California Department of Fish and Game jurisdiction. The project proponent will need to obtain permits/agreements from the County, California Department of Fish and Game (CDFG), Army Corps of Engineers, and California Regional Water Quality Control Board.

Mitigation will consist of the preservation of the onsite drainage totaling 5.66 acres, and the offsite purchase of 4.8 acres coast live oak woodland, 8.6 acres of non-native grassland or sage scrub/chaparral, and 0.3 acres of Southern coast live oak riparian forest at an offsite mitigation bank. Additional avoidance, minimization, and mitigation measures are discussed in Section 7 of the report.

B. INTRODUCTION

Existing and potential biological resources on the approximately 27.15-acre site of the proposed Fallbrook Oaks project development were examined through field reconnaissance and evaluation of the potential of habitat to support sensitive wildlife and plant species by Dudek. VHBC, Inc. subcontracted with Gonzales Environmental Consulting (GEC) to further define the jurisdictional areas.

The proposed project includes construction of 18 new houses onsite, construction of a paved road accessing fifteen of the houses in the western part of the site, improvements to Reche Road and other onsite infrastructure improvements. A Limited Building Zone Easement (LBZE), for brush management beyond the limits of grading, will also be created around the new development, as well as around an existing structure on the property. Offsite impacts related to safety (line of sight) issues of the new road are also addressed.

PHYSICAL CHARACTERISTICS

Site Description

The proposed 27.15-acre Fallbrook Oaks project site is located northeast of the intersection of Reche Road and Ranger Road in the community of Fallbrook, in an unincorporated part of the County of San Diego, California (see *Figure 1*). The property is mapped on the U.S. Geological Survey (USGS) 7.5 minute Bonsall quadrangle in Section 22, Township 9 South, Range 3 West (see *Figure 2*).

The project site rises from approximately 520 feet above mean sea level (AMSL) in the southeast to 640 feet AMSL in the northwest. A blue line stream was mapped traversing the site in a roughly north to south direction (USGS 1975).

The land use for the project site was formerly agriculture. The site was planted with tree crops (avocado, citrus, and walnut) in the western half and contained a house and yard off Reche Road. Both appear to have been abandoned in the previous decade, and fruit trees are dead or dying and old-field succession is occurring. Functioning citrus and avocado groves are to the north and west of the property, a park-like wooded area and single-family residences are to the south, and an unplowed field, residence, and plant nursery are to the east. Irrigation water from the groves to the north drains onto the site.

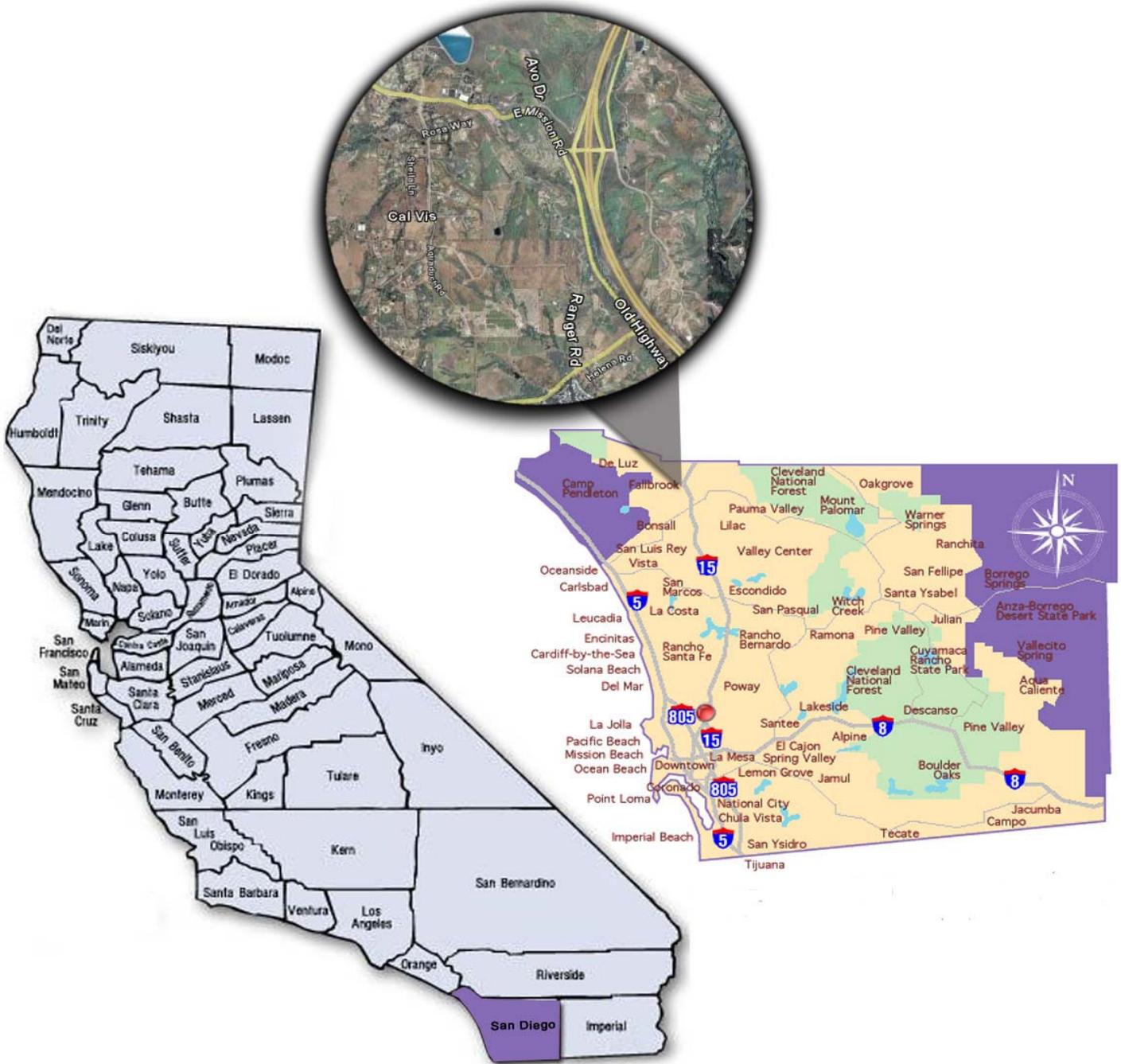
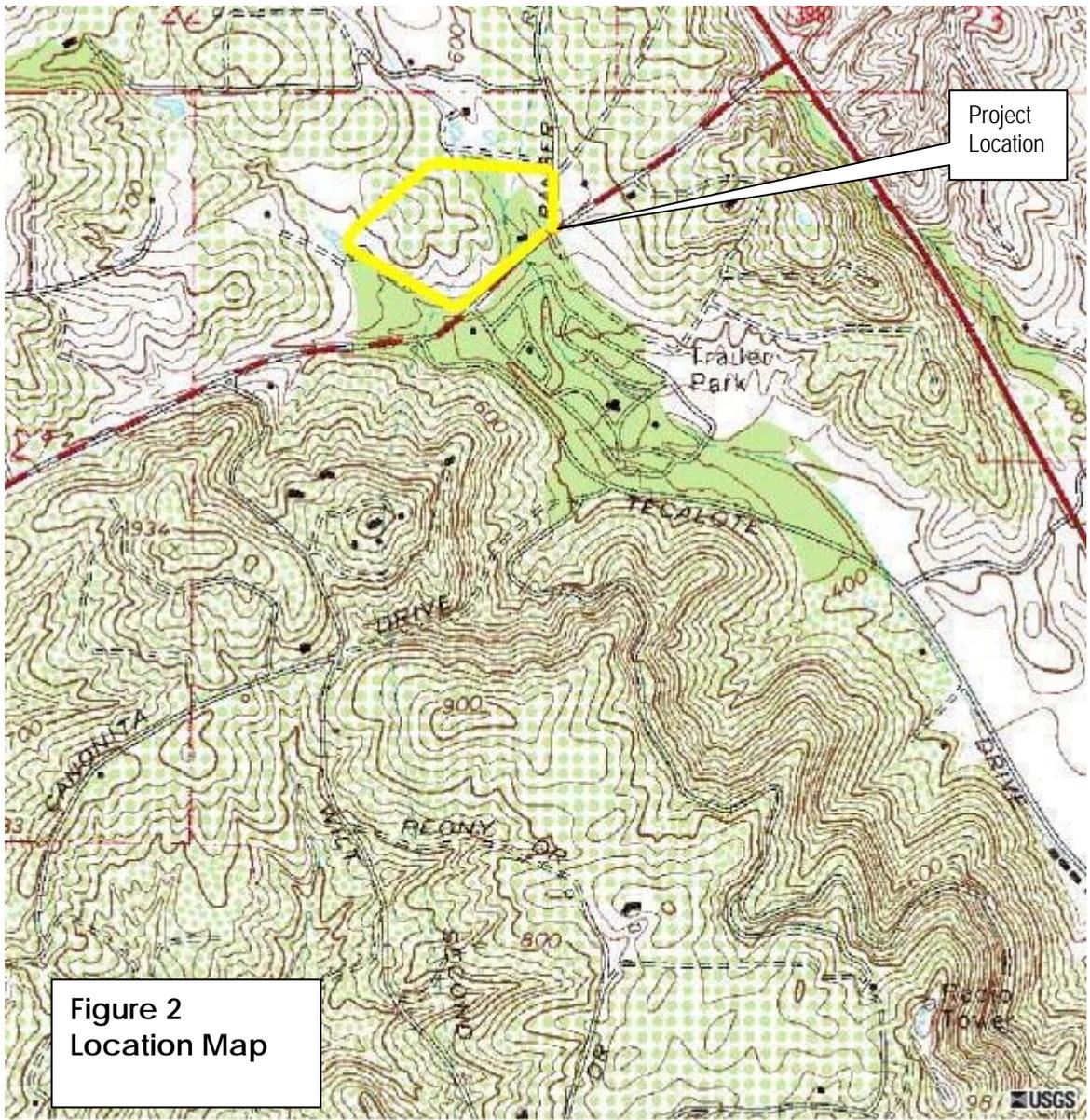


Figure 1
Vicinity Map



Please note that this is an approximate locality map, and should not be used for calculations

Soils

The site is mapped as containing sandy loam soils in the Vista, Ramona, Placentia, and Fallbrook series, and it contains Steep gullied land (Bowman 1973). These soils are well drained or moderately well drained, have neutral pH, and are not recognized as providing a substrate for particular rare plant species.

Steep gullied land, found in a band through the center of the site (in approximately the same area as the streams onsite) is actively eroding into old alluvial or decomposed rock parent material (Bowman 1973).

Ramona sandy loam, 5 to 9 percent slopes occurs along either side of the steep gullied land. It is a well-drained soil with sandy loam topsoil 11 to 21 inches deep over sandy clay loam subsoil from 30 to 56 inches thick. Ramona soils are derived from granitic alluvium on alluvial fans and terraces. Native vegetation typically found on these soils includes chamise chaparral and scattered oaks and annual forbs (Bowman 1973).

Vista coarse sandy loam, 15 to 30 percent slopes, found in most of the western one-third of the site, occur on sloping uplands and are derived from granodiorite or quartz diorite. This moderately well drained soil has grayish brown to dark-brown topsoil 14 to 23 inches deep over the sandy loam subsoil that extends from 27 to 47 inches depth. Vista soils typically support chamise chaparral, coastal sage scrub, and annual grassland (Bowman 1973).

Placentia sandy loam, 2 to 9 percent slopes, eroded, occurs in the southeastern corner of the site. Placentia series soils are moderately well drained soils that form on granitic alluvium on old alluvial fans. The topsoil extends from 9 to 20 inches deep, above a sandy clay to heavy clay subsoil. Placentia soils typically support oak savannah, chamise chaparral, and annual grassland (Bowman 1973).

Fallbrook sandy loam, 9 to 15 percent slopes, eroded occurs at the southern tip of the site. It is from 27 to 50 inches deep, with a sandy loam topsoil and loam to sandy clay loam subsoil. Fallbrook series soils are well-drained, deep sandy loams formed in place from weathering of granodiorite. This soil typically supports grasslands, oak, broad-leaved, or chamise chaparral vegetation (Bowman 1973).

C. METHODS AND SURVEY LIMITATIONS

Data regarding biological resources present on the project site were obtained through a review of pertinent literature and through field reconnaissance; both are described in detail below.

Literature Review

Sensitive biological resources present or potentially present onsite were identified through a literature search using California Department of Fish and Game (CDFG; 2004a, 2004b, 2005a, 2005b, 2005c) and the California Native Plant Society's (CNPS) on-line *Inventory of Rare and Endangered Vascular Plants* (CNPS 2005). General information regarding wildlife species present in the region was obtained from Unitt (1984) for birds, Bond (1977) for mammals, Stebbins (2003) for reptiles and amphibians, and Emmel and Emmel (1973) for butterflies.

Field Reconnaissance

Dudek biologists Marc C. Doalson (MCD), David W. Flietner (DWF), and Brock Ortega (BAO) conducted biological reconnaissance surveys of the site in June and July 2005. The surveys consisted of mapping vegetation communities, inventories of the plant and wildlife species observed, and a jurisdictional wetlands delineation. The potential for sensitive plants and wildlife to occur onsite was assessed based upon vegetation communities, soils, and habitat quality onsite and the distribution and range of sensitive species known to occur in the region. The potential for the site to serve as a wildlife corridor also was evaluated. *Table 1* lists the dates, conditions, and focus for these surveys. GEC completed an updated jurisdiction wetlands delineation for the project site on March 17, and 19, 2006.

**TABLE 1
SCHEDULE OF SURVEYS**

DATE	HOURS	STAFF	FOCUS	CONDITIONS
6/1/05	1000-1300	Dudak-MCD	Rare plant survey, floristic survey	50% cloud cover, 0 mph wind, 75° F
6/21/05	1530-1930	Dudak-DWF	Wetlands delineation, vegetation mapping	10% cloud cover, 0-5 mph wind, 70-75° F
6/23/05	1015-1315	Dudak-DWF	Wetlands delineation, vegetation mapping	0% cloud cover, 2-7 mph wind, 65-75° F
7/2/05	0600-1000	Dudak-BAO	Wildlife survey	0 - 100% cloud cover, 0 mph winds, 59 - 73° F
7/18/05	1130-1315	Dudak-DWF	Vegetation mapping	0% cloud cover, 0 - 3 mph winds, 90 - 95° F
12/27/05	1030 - 1215	Dudak-DWF	Confirmation of surveyor mapping, vegetation mapping of offsite impact area	60% cloud cover, 2 - 5 mph winds, 70° F
3/17-19/06	0600-1200	GEC-TG	Wetlands/streambed delineation	0 - 100% cloud cover, 0 mph winds, 59 - 73° F

5/26, 6/2, 6/9, 6/16, 6/23, 7/7, 7/14, 7/21/06	0500-1000	GEC-TG	Least Bell's vireo, southwestern willow flycatcher	0 cloud cover, 0-4 mph winds, 64 - 71° F
5/28/07	1200-1800	GEC-TG	Rare plant survey, floristic survey	0 cloud cover, 0-4 mph winds, 64 - 71° F

Resource Mapping

Plant communities were mapped in the field either using a Global Positioning System (GPS) receiver with sub-meter accuracy (Trimble Asset Surveyor v. 5.26) or directly onto a 200 scale (1" = 200') aerial photograph of the site flown in May 2004. Jurisdictional waters were mapped with the GPS receiver. Dudek Geographic Information System (GIS) technician Martie Clemons mapped vegetation and plants onto a topographic base map of the site using ArcGIS software.

On December 27, 2005 Lundstrom Associates resurveyed the drip line of the oak canopy in the eastern part of the site with survey crews. Dudek biologist David Flietner checked the accuracy of the spray-painted line used for the placement of survey points in the field at the same time. The surveyed line was corrected where discrepancies between the canopy edge and the reference line were noted, and was used to replace the previous linework. Most of the original line work was found to be accurate, but an error of up to 26 feet was discovered along the northern portion of this line.

Plant community classifications used in this report follow Holland (1986) and Oberbauer (1996).

Flora

All native and naturalized plant species encountered during the survey were identified and recorded; ornamental and agricultural plant species were not included in this inventory. Those species that could not be identified immediately were brought into the laboratory for further investigation. Latin and common names of plants follow *The Jepson Manual* (Hickman 1993) or more recent published taxonomical revisions of genera. Where not listed in Hickman (1993), common names follow Simpson and Rebman (2001) or Roberts (1998). A cumulative list of plant species observed on the property is presented in *Appendix A*.

Fauna

Wildlife species detected during the field surveys by sight, calls, tracks, scat, or other signs were recorded. Binoculars (10 X 30) were used to aid in the identification of observed animals. In addition to species actually observed, expected wildlife use of the site was determined by known habitat preferences of local species and knowledge of their relative distributions in the area. A cumulative list of wildlife species observed or detected onsite is presented in *Appendix B*.

Latin and common names of animals follow Stebbins (2003) for reptiles and amphibians, American Ornithologists' Union (2004) for birds, Jones et al. (1997) for mammals, and Emmel and Emmel (1973) for butterflies.

Jurisdictional Delineation

There are waters/streambeds on the property site. There are two unnamed drainages on the project site. A jurisdictional delineation has been completed for the project site. Please see the attached Wetland/Streambed Delineation for the project. In summary, there are 0.15 acres of waters of the U.S., 0.30 acre of RPO wetlands, and 1.49 acres of CDFG jurisdiction (live oak woodland/riparian-southern coast live oak riparian forest) on the project site.

Sensitive/Regulated Biological Resources

Sensitive biological resources are species that have been given special recognition by federal, state, or county due to limited, declining, or threatened population sizes; species and habitat types recognized by regional and state resource agencies as sensitive; wildlife corridors and habitat linkages. Regulated biological resources may or may not be considered sensitive, but do meet jurisdictional determination criteria under any of several local, state, and/or federal laws. Such resources may be species locations, habitat, or topographic features such as drainage courses.

Survey Limitations

Floristic surveys were conducted in May 2007 for *Mesa horkelia* and *delicate clarkia*. Since 2007 is a drought year floristic species that may be present on the project site during normal rainfall years, may not be present due to lack of rain. Past agricultural land use and subsequent abandonment and old-field succession complicated delineation of discrete vegetation communities and multiple visits were needed to devise appropriate site-specific classification criteria.

Wildlife surveys were conducted in early July 2005 and some winter or fall migratory bird species may not have been detected. Wildlife surveys were conducted during the morning to maximize the detection of bird species reducing the likelihood of observing nocturnally-active wildlife species. Focused trapping for small mammals and reptiles was not performed. Many species of reptiles and amphibians are secretive in their habits and are difficult to observe using standard meandering transects.

D. RESULTS OF SURVEY

Botany - Plant Communities and Floral Diversity

Six plant communities (vegetation types) were identified onsite: disturbed coast live oak woodland, non-native grassland, non-native vegetation, disturbed habitat (developed), southern coast live oak riparian forest, and valley needlegrass grassland. These vegetation types are described below, their acreages are presented in *Table 2*, and their locations are shown in *Figure 3*. *Figure 3* also shows vegetation communities and land cover types within a 100-foot wide mapping buffer around the project site, as required by the County DPLU (County 2002).

Coast Live Oak Woodland / Disturbed Coast Live Oak Woodland (Holland Code 71160)

Coast live oak woodland (oak woodland) is dominated by coast live oak (*Quercus agrifolia*), which may occur in pure stands, open savannas, or in stands mixed with conifers and broadleaf trees. The shrub layer is poorly developed but may include large shrubs such as toyon (*Heteromeles arbutifolia*), laurel sumac (*Malosma laurina*) and blue elderberry (*Sambucus mexicana*). Non-native grasses such as ripgut brome (*Bromus diandrus*) dominate the herb layer. Western poison oak (*Toxicodendron diversilobum*) is also a characteristic species in oak woodland. This community typically is found on north-facing slopes and shaded ravines in southern California and on more exposed sites in the north (Holland 1986).

Two areas onsite are mapped as oak woodland, to either side of the larger southern coast live oak riparian forest through the center of the site. The western patch of is dominated by coast live oak trees greater than 20 feet tall that form a near-continuous canopy cover. The eastern patch contains three mature coast live oak trees with an understory of non-native grasses and herbs, about 30 percent cover of western poison oak, and scattered oak seedlings on the periphery.

Coast live oak woodland was distinguished from adjacent southern coast live oak riparian forest by the greater distance of the vegetation from the stream channels (at least 5 feet from the western patch and 6 feet from the eastern patch), and an understory dominated by non-native grasses and forbs lacking dense vines, shrubs, and other mesic understory species typically associated with riparian vegetation. Coast live oak woodland has appropriate structure to provide high-quality habitat for a variety of wildlife species.

Disturbed coast live oak woodland is mapped in the abandoned grove in the center and western parts of the site. Onsite disturbed coast live oak woodland is defined as: a minimum area of 0.1 acre where coast live oak is the dominant tree species, with other agricultural trees, particularly avocado, occasionally present; woody native cover (coast live oak and toyon) is greater than 20% (typically about 25%); with coast live oak trees are greater than ten feet tall (typically 10 – 15 feet tall, but including individual trees up to 25 feet tall). These two areas are near intact coast live oak woodland to the west of the site and apparently have been colonized more readily than other parts of the abandoned grove. The habitat value of disturbed coast live oak woodland for plant and animal diversity is marginal, but higher than surrounding non-native grassland.

Non-native Grassland (Holland Code 42200)

Non-native grassland is characterized by a sparse to dense cover of annual grasses typically up to two feet tall, with many annual wildflowers also present in years with favorable rainfall. This vegetation community typically occurs on fine-textured soils that are moist or wet in the winter and very dry during summer and fall. Plant species present typically include wild oat (*Avena spp.*), bromes (*Bromus spp.*), tarweeds (*Centromadia*

spp., *Deinandra* spp.), and filarees (*Erodium* spp.) (Holland 1986). In San Diego County, annual grasslands often occur where the native habitat has been disturbed frequently or intensively by grazing, fire, agriculture, or other activities.

Non-native grassland need not exhibit moderate to high value for sensitive wildlife, including potential raptor foraging, if it has a non-native grassland component, evidence of rodent activity or raptor foraging, or provides potential habitat for small mammals or reptiles. Where there is a mixture of species from different vegetation communities, the indicator species with the greatest vegetation coverage is used to identify the vegetation type (County 2002).

Non-native grassland occurs along the eastern edge of the site and throughout most of the western part of the site, including most of the area of abandoned grove. This vegetation type has a dense (greater than 80% cover) herb layer containing non-native grasses, such as wild oat (*Avena fatua*) and soft brome (*Bromus hordeaceus*), non-native herbs, such as Italian thistle (*Carduus pycnocephala*), black mustard (*Brassica nigra*), red-stemmed filaree (*Erodium cicutarium*) and fennel (*Foeniculum vulgare*), or dove weed (*Eremocarpus setigerus*), a native herb. Coast live oak, toyon, avocado, walnut, and citrus have a combined canopy cover of up to 20%, with native and non-native canopy cover being roughly equal. Single mature coast live oak, Brazilian pepper (*Schinus molle*), or pine trees are also included in this classification, as is a cluster of coast live oaks that form a single canopy. Because of the disturbed nature of much of this vegetation community, habitat value is low, with the primary value including roost and perch sites (in dead trees) for raptors foraging on small mammals in the grassland.

Non-native Vegetation (Holland Code 11000)

Non-native vegetation is a general category. Onsite this classification includes areas with a 50% or greater cover of non-native arboreal ornamental or agricultural plants: areas dominated by clusters of Mexican fan palms (*Washingtonia robusta*); groups of at least two pine (*Pinus* sp.) trees; areas where abandoned walnut (*Juglans* sp.) and avocado (*Persea* sp.) trees maintain a healthy canopy (at least 80% living); and an area with a closed canopy of young *Prunus* sp. trees (six to eight feet tall) on a northeast-facing slope above the riparian forest. Habitat value is limited to bird nesting and perching sites.

Southern Coast Live Oak Riparian Forest (Holland Code 61310)

Southern coast live oak riparian forest (oak riparian forest) is an open to locally dense evergreen riparian woodland dominated by coast live oak. It develops on fine-grained rich alluvium on the outer floodplains along larger streams. This community often contains relatively more herbs and fewer shrubs than other riparian communities. Understory species commonly observed within oak riparian forest include western poison oak (*Toxicodendron diversilobum*) and toyon (Holland 1986).

Oak riparian forest occurs in the eastern half of the site adjacent to the two streams that traverse the site from north to south. In addition to the dominant coast live oaks, two Engelmann oaks (*Quercus engelmannii*) are present on the edges of this community. These mature oak trees are 30 to 40 feet tall, over an understory that includes western poison oak, scratchgrass (*Muhlenbergia asperifolia*), common poison hemlock (*Conium maculatum*), English ivy (*Hedera helix*), greater periwinkle (*Vinca major*), and Italian thistle (see *Appendix E, Photographs 5 and 6*). Toyon is the dominant understory shrub. Oak riparian forest is mapped to the limits of the riparian coast live oak's canopies and thus includes some upland areas with an understory of non-native grasses and other xeric species along the margins. Habitat value is moderate, with good potential for nesting birds, reptiles, and amphibians limited by non-native species in the understory and lack of connectivity with other riparian habitat.

Valley Needlegrass Grassland (Holland Code 42110)

Valley needlegrass grassland (valley grassland) is dominated by purple needlegrass (*Nassella pulchra*), a tussock-forming perennial grass that reaches about two feet in height. It usually occurs on fine-textured soils that are moist or wet in winter, becoming very dry in summer. On moister sites it often occurs among oak woodlands. Native annuals and grasses, and non-native grasses, such as bromes and wild oats, occur between the bunchgrasses, often forming most of the vegetative cover (Holland 1986). Valley grassland is mapped when native grass cover is 20% or greater (County 2002).

Valley grassland occurs on the eastern edge of the site in the upland area and between the riparian oak vegetation. Except at the fringes of the vegetation, purple needlegrass consistently occupied over 50% of the vegetative cover. Canchalagua (*Centaureum venustum*) was the only native wildflower observed in the valley needlegrass grassland. Areas with abundant purple needlegrass beneath the oak riparian forest canopy were mapped as the latter. Habitat value is moderate, due to its relatively high quality (native plant cover) but limited area.

Urban/ Developed (Holland Code 12000)

Urban/ developed is a category that includes buildings and roads. Developed areas onsite consist of a vacant building and paved roads around the perimeter of the property.

TABLE 2 VEGETATION COMMUNITIES AND LAND COVER TYPES

VEGETATION COMMUNITY/LAND COVER TYPE	ACREAGE
Disturbed Coast Live Oak Woodland	3.2
Non-native Grassland	17.6
Non-native Vegetation	2.8
Southern Coast Live Oak Riparian Forest (RPO & ACOE)	2.5
Valley Needlegrass Grassland	0.1
Urban/Developed	1.0
Total	27.2

Totals may not sum due to rounding

Floral Diversity

A total of 64 species of vascular plants including 32 native species (50 percent) and 32 non-native species (50 percent) were recorded from the site (see *Appendix A*). Non-naturalized ornamental and agricultural crops are not included in this total. The site had a relatively high abundance of non-native plants, reflective of the site's disturbed condition.

Zoology – Wildlife Diversity

The project site contains mostly disturbed upland habitats and relatively high quality riparian habitat. A total of 24 species of wildlife were observed during the survey, comprising one reptile species, 17 bird species, four mammal species, and two butterfly species (*Appendix B*).

Most bird species observed are widespread and relatively common, such as Anna's hummingbird (*Calypte anna*), western scrub-jay (*Aphelocoma californica*), common raven (*Corvus corax*) house wren (*Troglodyte aedon*), and house finch (*Carpodacus mexicanus*). Two raptors, red-tailed hawk (*Buteo jamaicensis*) and red-shouldered hawk (*B. lineatus*) were observed to roost onsite. Oak riparian woodland onsite provided habitat for great horned owl (*Bubo virginianus*), acorn woodpecker (*Melanerpes formicivorus*), and black-headed grosbeak (*Pheuticus melanocephalus*). It is likely that a variety of other resident and migratory bird species also use the project site during the fall and winter.

The four mammal species detected onsite, brush rabbit (*Sylvilagus bachmani*), California ground squirrel (*Spermophilus beecheyi*), woodrat (*Neotoma* sp.), and coyote (*Canis latrans*) are wide spread and common species that are adapted to disturbed habitats.

Sensitive Biological Resources

Sensitive Vegetation

Five vegetation communities onsite are considered sensitive by CDFG and San Diego County: coast live oak woodland, disturbed coast live oak woodland, southern coast live oak riparian forest, valley needlegrass grassland and non-native grassland.

Sensitive Plant Species

No species of plant listed or proposed for listing as rare, threatened or endangered by either the state or federal governments was detected onsite, and none are expected based on the habitat and soils types present.

One mature Engelmann oak tree is present onsite. Engelmann oak is considered sensitive (Group D), by the County, but not by CDFG.

Two species considered sensitive by CDFG and the County, delicate clarkia (*Clarkia delicata*) and mesa horkelia (*Horkelia cuneata* ssp. *puberula*), have a moderate potential to occur onsite based on the presence of appropriate habitat and soils. Focused surveys for delicate clarkia and mesa horkelia in Spring of 2007 did not find either species onsite. No other sensitive plant species are considered to likely to occur onsite based on examination of the range and habitat requirements of the species.

Sensitive Wildlife Species

No wildlife species listed or proposed for listing as threatened or endangered by the state or federal governments was detected onsite. There is a low potential for the state- and federally-listed endangered least Bell's vireo (*Vireo bellii pusillus*) or southwestern willow flycatcher (*Empidonax traillii extimus*) to nest in oak riparian forest onsite (protocol surveys were conducted in 2006 and found neither species present onsite); oaks offer marginal habitat for these species. The nearest known locations of least Bell's vireo and southwestern willow flycatcher are located three miles west of the project site.

The red-shouldered hawk (*Buteo lineatus*), a raptor species listed as sensitive by San Diego County was observed on site. One mature female was observed in the southwestern portion of the project site. She was foraging in the area. No nests were located on-site.

Two species of amphibians that are California Species of Concern (CSC) are considered to have a low to moderate potential to occur in upland and/or riparian habitat near the onsite stream(s): western spadefoot (*Spea hammondi*) and coast range newt (*Taricha torosa torosa*). Although appropriate habitat is present the disturbed nature of the habitat limits the potential for these species to occur.

Six sensitive reptile species are considered to have a moderate or high potential to occur onsite. CSC Belding's orange-throated whiptail (*Cnemidophorus hyperythra*), CSC coast horned lizard (*Phrynosoma coronatum blainvillei*), San Diego ring-necked snake (*Diadophis punctatus similis*), and CSC Coronado skink (*Eucemes skiltonianus interparietalis*) may occur in either upland or riparian habitats onsite. CSC coastal western whiptail (*C. tigris stejnegeri*), and CSC two-striped garter snake (*Thamnophis hammondi*) have moderate potential to occur in riparian woodland only.

Three sensitive bird species have moderate to high potential to nest in oak riparian woodlands onsite: CSC yellow warbler (*Dendroica petechia brewsteri*), Fully Protected white-tailed kite (*Elanus leucurus*), and CSC Cooper's hawk (*Accipiter cooperi*). The latter two species may also nest in coast live oak or non-native trees in upland areas onsite.

CSC northwestern San Diego pocket mouse (*Chaetodipus fallax fallax*) has moderate potential to occur in upland grasslands and grassy understory vegetation. No sensitive species of fish or invertebrates have potential to occur onsite.

Wildlife Corridors and Habitat Linkages

Wildlife corridors are linear features that connect large patches of natural open space and provide avenues for wildlife movement. Wildlife corridors contribute to population viability by maintaining genetic diversity through gene flow, providing access to adjacent habitat for foraging and mating, and providing routes for recolonization following fire and other catastrophes.

Habitat linkages are patches of native habitat that connect two larger patches of habitat, helping to reduce the adverse effects of habitat fragmentation. A linkage provides a potential route for gene flow and long-term dispersal and may also serve as primary route for small animals, such as reptiles and amphibians. Habitat linkages may be continuous or a series of habitat islands that function as stepping stones for dispersal.

The County (2002) defines a regional linkage to be land with appropriate topography that is used by wildlife, including large animals, on a regional scale and that contains adequate vegetation cover to provide visual continuity that encourages its use by wildlife. Such a linkage/corridor would be considered sensitive.

Riparian woodland traverses the site from north to south and may serve as a minor corridor for movement of birds and small animals, but its location, surrounded by agricultural or residential development on all sides, precludes its use as a regional movement corridor for large mammals and does not meet the County's definition of a regional linkage.

Regional Resource Planning Context

In San Diego County, several conservation planning efforts are in progress with the goal

of establishing a regional reserve system that will protect native habitat lands and their associated biota in conformance with the State of California Natural Communities Conservation Program. Southwestern San Diego County is the first region within the County to have an approved plan, the Multiple Species Conservation Plan (MSCP).

The project site is located within the County's proposed North County MSCP Subarea. The North County planning area extends from the Lake Hodges area west to Rancho Santa Fe, east towards Ramona, and north to the Riverside County border.

E. ANALYSIS OF SIGNIFICANCE/EVALUATION OF RESOURCES

Explanation of Findings of Significance

Impacts to native habitats, sensitive plants, and sensitive wildlife species must be quantified and analyzed to determine whether such impacts are significant under the California Environmental Quality Act (CEQA). For purposes of this report, the proposed project may have a significant effect on the environment if the project has the potential to impact directly, indirectly, or cumulatively the following: **(1)** sensitive habitats; **(2)** sensitive species; **(3)** raptor foraging habitat or wildlife movement; **(4)** the ability of the County to implement existing or future conservation programs; **(5)** conformance with applicable ordinances, policies, and habitat conservation plans.

The evaluation of whether or not an impact to a particular biological resource is significant must consider both the resource itself and the role of that resource in a regional context. Substantial impacts are those that contribute to, or result in, permanent loss of an important resource, such as a population of a rare plant or animal. Impacts may be important locally because they result in an adverse alteration of existing site conditions, but considered not significant because they do not contribute substantially to the permanent loss of that resource regionally. The severity of an impact is the primary determinant of whether or not that impact can be mitigated to a level below significant. In particular, the regulations of the County are taken into consideration in the determination of significance and mitigation levels.

F. ANTICIPATED PROJECT IMPACTS

This section addresses direct, indirect, and cumulative impacts to biological resources that may result from implementation of the proposed project.

Direct impacts consist of the loss of habitat and the plant and wildlife species that it contains within the area impacted by the proposed project. For the purposes of this assessment, all biological resources within the grading impact area are considered 100 percent lost. Within brush management zones to be created adjacent to development, impacts to vegetation are considered 100 percent loss, even though individual trees area may not be impacted. For the purposes of this report, Limited

Building Zone Easements (LBZEs) are considered to be potential brush management zones and are considered 100 percent loss.

Direct impacts to the extensive root zone of root systems of coast live oak trees in oak woodlands may occur within 50 feet of the edge of remaining oak woodland. For the relatively small existing root zone of the young oak trees in the disturbed coast live oak woodland vegetation adjacent to graded areas, direct impacts extend ten feet beyond the limits of grading. This method provides a conservative estimate of total project impacts to these vegetation communities.

Direct impacts were quantified by overlaying digital maps showing the limits of grading and LBZEs on the vegetation map

Indirect Impacts are difficult to quantify but may be as significant as direct impacts. They primarily result from adverse "edge effects," either short-term indirect impacts related to construction or long-term, chronic indirect impacts associated with the location of development in proximity to biological resources within natural open space.

Other long-term indirect project impacts that could potentially result from the new housing include introduction of meso-predators; residential runoff; introduction of invasive exotic plants into natural vegetation; noise and lighting impacts to wildlife; or changes in ecosystem dynamics such as stream flow or fire cycles.

Short-term indirect impacts that could potentially result from project construction include dust, which could affect plant growth and insect activity; noise, which could disrupt wildlife communication, including bird breeding behavior; lighting, which could disrupt behavior of nocturnal reptiles, mammals, and raptors; sedimentation, siltation, and erosion, which could affect water quality of onsite streams; and pollutant run-off, including chemicals used during construction and machinery maintenance, which could contaminate soil and water.

Cumulative Impacts refer to incremental individual environmental effects of the proposed project and other past, present, and reasonably foreseeable future projects when combined together. These impacts taken individually may be minor, but collectively may be significant as they occur over a period of time.

Vegetation Communities

Direct Impacts

Direct permanent impacts include all areas outside of biological open space easements. Implementation of the proposed project would result in the estimated direct permanent loss of the vegetation community and land cover acreages in *Table 3*. Direct impacts to disturbed coast live oak woodland (1.6 acres), and non-native grassland (17.2 acre), all vegetation communities considered sensitive by the County, are considered significant.

TABLE 3 VEGETATION TYPE, IMPACTS AND OPEN SPACE TOTALS

HABITAT TYPE	IMPACTS	OPEN SPACE	TOTAL
Disturbed Coast Live Oak Woodland	1.6	1.6	3.2
Non-native Grassland	17.2	0.4	17.6
Non-native Vegetation	2.6	0.2	2.8
Southern Coast Live Oak Riparian Forest	0.1	2.4	2.5
Valley Needlegrass Grassland	0	0.1	0.1
Developed/Urban	0.1	0.9	1.0
TOTAL *	21.6	5.6	27.2

* Totals may not sum due to rounding

Indirect Impacts

Construction-related dust could indirectly impact growth of vegetation in sensitive vegetation communities. Construction-related erosion, sedimentation, and runoff could affect plant growth and reproduction by altering the water, nutrients, and soil substrate. These impacts would be considered significant.

Potential long-term indirect effects resulting from the presence of a residential development near sensitive vegetation communities include introduction of urban runoff, invasive plants, and meso-predators, and increased treading and trampling in sensitive habitat areas. These impacts would be considered significant.

Increased recreational use of riparian forest habitat has the potential to indirectly impact sensitive plants and vegetation communities by treading and trampling.

Use of exotic species in landscaping has the potential to indirectly impact sensitive plants and vegetation through propagule dissemination and establishment of invasive exotic plants.

Mitigation Measures

Recommended mitigation for significant direct and indirect impacts to sensitive vegetation communities consists of preservation or restoration of vegetation communities of equal or greater habitat value in the amounts shown in *Table 4* and discussed below.

TABLE 4: REQUIRED MITIGATION FOR SENSITIVE VEGETATION IMPACTS (ACRES)

VEGETATION COMMUNITY	DIRECT IMPACTS	RECOMMENDED MITIGATION				
		RATIO	TOTAL*	ONSITE		OFFSITE PURCHASE
				PRESERVE	RESTORE	
Disturbed Live Oak Woodland	1.6	3:1	4.8	1.6	0	4.8
Non-native Grassland	17.2	0.5:1	8.6	0.4	0	8.6**
Non-native Vegetation	2.6	NA	0	0.2	0	0
S. Coast Live Oak Woodland / Oak Riparian Forest	0.1	3:1	0.3	2.4	0	0.3
Valley Needlegrass Grassland	0	NA	0.0	0.1	0	0
Developed/Urban	0.1	NA		0.9	0	0
TOTAL *	21.6	NA	13.7	5.6	0	13.7

* Totals may not sum or multiply due to rounding.

** Non-native grassland habitat is only present due to past agricultural disturbances, mitigation of sage scrub/chaparral habitat through Daley Ranch Conservation Bank will mitigate for the biological functions lost due to the project.

Coast Live Oak Woodland / Oak Riparian Forest

Mitigation for estimated direct and indirect impacts to 0.1 acre to oak riparian forest is in the form of offsite purchase of 0.3 acre of oak riparian forest, a 3:1 ratio.

Disturbed Live Oak Woodland

Mitigation for estimated impacts to 1.6 acres of coast live oak woodland is in the form of purchase of 4.8 acres of coast live oak woodland off-site, at a 3:1 ratio. A total of 1.6 acres of oak riparian forest/coast live oak woodland on site will be avoided and preserved in a dedicated biological open space easement per lot.

Non-native Grassland

Mitigation for impacts to 17.2 acres of non-native grassland is in the form of offsite purchase and preservation of 8.6 acres of sage scrub/chaparral through the Daley Ranch Conservation Bank. The preservation of offsite sage scrub/chaparral habitat would mitigate for the biological functions of the non-native grassland lost due to the proposed project. Sage scrub/chaparral is the historic habitat types in the Fallbrook Oaks project site. Since the 1970s the project has been used as an orchard for avocado, citrus and walnuts. Prior to that, the site was predominately coastal sage scrub/chaparral. Natural areas in the surrounding area consist of that habitat mixture. Therefore, offsite purchase of coastal sage scrub/chaparral would mitigate for impacts to non-native grassland and provide an equal biological benefit.

Valley Needlegrass Grassland

A total of 0.1 acre of Valley needlegrass grassland on site will be avoided and preserved in a dedicated biological open space easement per lot.

Potential effects of construction-related sedimentation, siltation, erosion, or pollutant run-off typically would be minimized through fencing of the construction area and adoption of best management practices (BMPs) required to obtain permits from local, state, and federal regulatory agencies. Implementation of BMPs incorporated in preparation of a Stormwater Pollution Prevention Plan (SWPPP) and in accordance with

the National Pollutant Discharge Elimination System (NPDES) general construction permit would reduce these indirect impacts to less than significant.

The long-term potential for introduction of invasive exotic plants may be minimized through prohibition on planting invasive non-native species adjacent to the proposed open space easement. Landscape designs should designate that container plants and hydroseed application shall not include any invasive species listed by the California Invasive Plant Council (1999).

The long-term potential for treading and trampling of sensitive vegetation communities onsite may be reduced through development and implementation of a long-term Resource Management Plan for the open space easement area. This would include a funding mechanism, an ongoing education program through the homeowners association (HOA), the maintenance of permanent signage and fencing, control of invasive and/or exotic plants, regular patrol, removal of trash, etc.

The long-term potential to water quality impacts may be reduced through proper engineering design of storm water filtration. Preparation of a Storm Water Management Plan demonstrating appropriate post-construction water quality Best Management Practices (BMPs) would also reduce these impacts. All BMPs shall be located within the limits of development.

Other measures to reduce indirect impacts include construction of permanent fencing and signage on the boundary of the Open Space Easement. In addition, dedication of a Limited Building Zone Easement adjacent to the Open Space Easement will prohibit construction of structures that would require fire fuel modification within the Open Space.

These measures would reduce potential indirect impacts to sensitive vegetation communities to less than significant.

Jurisdictional Waters

Direct Impacts

Cut and fill grading associated with improvements to Reche Road and placement of flood control structures within the channels will result in permanent direct impacts to 0.005 acres of County of San Diego wetlands. Existing culverted waters are not considered to be County wetlands (C. Stevenson, pers. comm.). The channels impacted, and the length and area of these impacts are shown in *Table 5*.

TABLE 5: Federal Jurisdictional Impacts

Drainage	Permanent Impacts		Temporary Impacts	
	Length	Acreage	Length	Acreage
Drainage 1	35	0.002	21	0.001
Drainage 2	29	0.004	18	0.002
TOTAL	64	0.006	39	0.003

Table 6: State Jurisdictional Impacts

Drainage	Permanent Impacts	
	Length	Acreage
Drainage 1	35	0.02
Drainage 2	29	0.03
TOTAL	64	0.05*

*Rounded to 0.1 acre

Table 7: RPO Jurisdictional Impacts

Drainage	Permanent Impacts	
	Length	Acreage
Drainage 1	35	0.002
Drainage 2	29	0.003
TOTAL	64	0.005

Indirect Impacts

Construction-related sedimentation, soil erosion, and runoff could result in indirect, temporary impacts to oak riparian forest and the eastern stream channel.

Fire fuel management adjacent to the open space may result long-term sedimentation, soil erosion, and runoff that would adversely impact jurisdictional water adjacent in the eastern part of the site.

Mitigation Measures

The County requires 3:1 mitigation for permanent impacts to County wetlands, including at least 1:1 creation, to satisfy the no-net loss of wetlands criterion. Enhancement of 0.1 acre x 3 = 0.3 acre of stream channel, including creation of at least 0.1 acre would reduce impacts to less than significant. Appropriate mitigation should be detailed in a County Wetlands Mitigation and Monitoring Plan within the watershed or through purchase of credit in an approved wetlands mitigation bank.

Due to the adjacency of the planned developed to County wetlands, the adequacy of the wetland buffer (*i.e.*, upland area separating development from jurisdictional wetlands edge) provided by the project must be analyzed. Wetland buffer areas are required to be of “appropriate size to protect the environmental and functional habitat values of the wetland, or which are integrally important in supporting the full range of the wetland and adjacent upland biological community. Buffer widths shall be 50 to 200 feet from the edge of the wetland as appropriate based on the above factors. Where oak woodland occurs adjacent to the wetland, the wetland buffer shall include the entirety of the oak habitat (not to exceed 200 feet in width)” (County 2007). For this project, wetland buffers will extend at least 50 feet on either side of the two onsite streams, and will be preserved in a dedicated biological open space easement.

The project meets the ACOE criteria for a Section 404 Nationwide Permit 14 (Linear projects). Nationwide Permit 14 requires pre-notification (PCN) and approval. Permit approvals will be required by RWQCB to obtain a Clean Water Act Section 401 Water

Quality Certification and by CDFG to obtain a California Fish and Game Code Section 1602 Streambed Alteration Agreement (SAA).

Direct impacts to 0.05 acre of CDFG-jurisdictional riparian forest also would be mitigated by compensatory mitigation measures required for a Section 1602 SAA. Mitigation measures discussed for sensitive vegetation are likely to be considered adequate mitigation for direct impacts.

Potentially significant short-term indirect impacts to jurisdictional waters would be minimized by compliance with SWPPP and NDPES best management practices to reduce potential dust, sedimentation, erosion, and runoff to less than significant levels.

Long-term indirect impacts to jurisdictional waters due to brush management activities adjacent to the wetland buffers would be minimized by adopting BMPs for maintenance activities in this area. These measures would reduce potential long-term indirect impacts to jurisdictional waters to less than significant.

The proposed mitigation measures and any additional permit requirements from ACOE and CDFG would reduce direct impacts to less than significant.

Sensitive Plant Species

Direct Impacts

One Engelmann oak is outside the limits of grading near Drainage 2. The proposed fuel treatment would not entail removal of mature oak trees, but trimming of grasses and herbs, selective thinning of smaller shrubs, and removal of dead underbrush (R. Montague, *pers. comm.*). No direct project impacts to Engelmann oak are anticipated.

Mesa horkelia and delicate clarkia focused surveys were conducted in Spring 2007. No Mesa horkelia or delicate clarkia were present onsite.

Indirect Impacts

No indirect impacts to sensitive plant species will occur.

Sensitive Wildlife Species

Direct Impacts

Least Bell's vireo and southwestern willow flycatcher are not anticipated to be present on the site. Therefore, no impacts to the species are expected.

Yellow warbler, western spadefoot, San Diego ringneck snake, Coronado skink, and two-striped garter snake, if present, may be directly impacted by grading or brush clearance in oak riparian forest onsite. These impacts would be considered significant. These species depend on declining habitat and loss of the number of individuals that could potential occur onsite (from a few pair of bird species to dozens of reptile species) would constitute a loss to the local population.

Belding's orange throated-whiptail, coastal western whiptail, and coast horned lizard, if present, may be directly impacted by project impacts to coast live oak woodland, disturbed coast live oak woodland, non-native grassland, or valley and foothill grassland. These impacts are considered to be less than significant because these fairly conspicuous species are likely to be few in number, none were detected during the wildlife survey and the habitat quality is low. Loss of a limited number of these relatively widespread species would not constitute a substantial loss to the species.

Red-shouldered hawk, Cooper's hawk or other raptor species may nest in large trees in coast live oak woodland, oak riparian forest, non-native grassland and non-native vegetation, and would be impacted by tree removal in these areas.

White-tailed kite, if present, would nest in oak riparian forest and its young may forage in adjacent upland areas. Impacts to nesting or foraging habitat of this Fully Protected Species during the nesting period would therefore be significant.

Northwestern San Diego pocket mouse may occur in upland habitats throughout the site and also could be directly impacted by the project. Because of the marginal habitat quality for northwestern San Diego pocket mouse habitat onsite and the relative abundance of this species, impacts to this species, if present, due to habitat loss would be considered less than significant.

Indirect Impacts

Introduction of meso-predators into habitat of sensitive wildlife would be considered a significant indirect impact. Potential long-term indirect resulting from the presence of a residential development include the impacts to sensitive vegetation discussed above that could degrade wildlife habitat quality as well as increased lighting and introduction or artificial enhancement of meso-predator populations. Domestic cats and dogs from residences within the development may prey upon birds, reptiles, and small mammals within the oak riparian forest onsite. Lighting from streets and residences in the development could interfere with the activities of nocturnal reptiles, mammals, and raptors.

Mitigation Measures

Impacts to white-tailed kite, Cooper's hawk, yellow warbler, raptors, and other bird species nests protected under the MBTA may be avoided by a) conducting clearing outside of the January – September bird breeding season or b) having a qualified

biologist conduct a focused survey for bird nests within 72 hours prior to commencement of grading activities. If nests are found, impacts (both direct and indirect) may be avoided by ceasing construction within an appropriate zone around the nest site until juveniles have fledged. Sensitive bird species and raptors are typically afforded a 300 foot buffer; appropriate buffer areas for other migratory bird species should be determined by the biologist in consultation with the USFWS.

Mitigation for impacts to western spadefoot, San Diego ringneck snake, Coronado skink, and two-striped garter snake would be provided by onsite preservation of oak riparian forest as discussed above.

Long-term indirect impacts to sensitive wildlife species may be minimized by construction of a fence/wall and permanent signage separating developed areas from adjacent open space. The fence/wall will reduce the potential for dogs and cats to enter the open space and prey upon wildlife.

To mitigate for habitat impacts, the project will purchase offsite habitat credits at an approved mitigation bank. Offsite habitat will include 4.8 acres of coast live oak woodland, 8.6 acres of non-native grassland or sage scrub/chaparral, and 0.3 acres of Southern coast live oak riparian forest.

Regional Resource Planning Context

Completion of this project would not interfere with planning for the North County NCCP because of the project will conserve the most valuable habitat on site, the oak riparian forest and valley needlegrass grassland. Development of the remainder of the site (uplands) would not preclude future preserve planning, because the site is not connected to other large undeveloped lands and would not contribute to a future preserve system.

Cumulative Impacts

Implementation of the proposed Fallbrook Oaks development would contribute to the cumulative loss of biological resources within northern San Diego County. The cumulative loss of resources may be considered significant based on the rarity of habitats or species affected by the project. However, this project's contribution to the cumulative habitat loss will be less than cumulatively considerable due to the following: the project site will preserve the on-site wetland and wetland buffer, the most sensitive biological resources on site. The project includes a dedicated Limited Building Zone Easement onsite to prohibit construction of habitable structures that would require fire-clearing into the wetland and wetland buffer, and will construct fencing and signage to prevent additional indirect habitat impacts. Although the remainder of the site contains habitat that serves some biological functions, it is not connected to other large undeveloped lands and would not contribute to a future preserve system. The preservation of off-site habitat to mitigate for the upland habitats will reduce this project's contribution to cumulative biological impacts by contributing to the development of biologically viable areas that can support candidate, sensitive, or special status species.

Summary of Project Impacts and Mitigation

In summary, the project will impact 1.6 acres of disturbed coast live oak woodland, 17.2 acres of non-native grassland, 2.6 acres of non-native vegetation, 0.1 acres of southern coast live oak riparian forest, and 0.1 acres of developed habitat. Onsite preservation includes 1.6 acres of disturbed coast live oak woodland, 0.1 acres of valley needlegrass, 0.4 acres of non-native grassland, 0.2 acres of non-native vegetation, 2.4 acres of Southern coast live oak riparian forest, and 0.9 acres of developed/urban habitat. Mitigation will constitute of the onsite preservation discussed above and the offsite purchase of 4.8 acres of coast live oak woodland, 8.6 acres of non-native grassland or sage scrub/chaparral, and 0.3 acres of Southern coast live oak riparian forest at an offsite mitigation bank.

Table 8. Habitat/Vegetation Communities, Impacts, Mitigation

Habitat / Vegetation Community	Existing (acres) ¹	Onsite Impacts (acres) ¹	Mitigation Ratio	Mitigation Required (acres)	Preserved On-Site (acres) ¹	Off-Site Mitigation
Disturbed Coast Live Oak Woodland	3.2	1.6	3 :1	4.8	1.6	4.8
Non-native Grassland	17.6	17.2	0.5 :1	8.6	0.4	8.6
Non-native Vegetation	2.8	2.6	0	0	0.2	0
Southern Coast Live Oak Riparian Forest (RPO & ACOE)	2.5	0.1 ²	3 :1	0.3	2.4	0.3
Valley Needlegrass Grassland	0.1	0	0	0	0.1	0
Developed/Urban	1.0	0.1	0	0	0.9	0
Total	27.2	21.6	NA	13.7	5.6	13.7

- ¹ An estimate of the acreage present, generally rounded to the nearest tenth of an acre. However, for sensitive habitats (such as wetlands and vernal pools), the acreage may be presented in square footage or hundredths/thousandths of an acre.
- ² Includes permanent and temporary impacts.

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J. APPENDICES

Appendix A Plant Compendium

Appendix B Animal Compendium

Appendix C Federal, State and Non-Profit Conservation Designations

Appendix D Streambed Delineation

Appendix E Photos of the Site

Appendix F Habitat mapping –full scale

Appendix G Sensitive Animal Species List

Appendix H Sensitive Plant Species List

Appendix I Botanical Report

Appendix J Riparian Birds Report

Appendix K Resource Management Plan